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10/086,785	02/28/2002	John A. Scott	112056-0048	8989

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EXAMINER	
CORRIELUS, JEAN M	
ART UNIT	**PAPER NUMBER**
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/086,785	SCOTT, JOHN A.	
	Examiner	Art Unit	
	Jean M. Corrielus	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,20-32,37 and 38* is/are pending in the application.

4a) Of the above claim(s) *39-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,20,21,24-27,30-32,37 and 38* is/are rejected.

7)☒ Claim(s) *22, 23, 28, 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the election of the restriction requirements filed on June 6, 2007, which claims 1, 20-33 and 37-47 are presented for further examination.

Claim Objections

2. Claims 1, 20-32 and 37-38 are objected to because of the following informalities: to be consistent with specification, Applicant is advised to replace the word "actions" from the claim to "operations". Appropriate correction is required.

3. Claims 39-47 depend on a cancelled claim. They are, therefore, not examined until further clarification is made

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims **1, 20-32 and 37-38** are rejected under 101 because the claimed invention is directed to non-statutory subject matter. Converting a file access data structure from a first endianness to a second endianness could be reasonably considered a tangible result, the body of claims 1, 20, 32and 37 do not appear to actually support the preamble by including a step or steps which accomplish that. The body of the claim simply recites "performing the identified

series of actions on the elements of the file access data structure to convert the file data structure from the first endianness to the second endianness. However, such limitation as claimed only perform actions to convert the file data structure, actually it does not perform the step of converting the file data structure. Claim 26 also does not actually convert the file access data structure. The information provided in the specification page 14, lines 22-29 has shown that the CONVERT operation identifier means that the byte swapping engine needs to convert that particular entry into the proper endianness and the COPY operation causes the byte swapping engine to simply copy the data and not to perform any byte swapping, whereas LINKED operation alerts the byte swapping engine that this entry is a linked. Such information in the specification clear shown that each action is performed a separate operation. Claim 37 recites "stepping through the description table and processing each element of the first data structure according to the element's size and action to convert the first data structure into the second data structure". Such limitation as claimed does not perform the step of converting a data structure. Therefore, the claim fails to produce a result to form the basis statutory subject matter under 35 USC 101.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 20-20-32 and 37-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites "identifying, from a descriptor look up table, a

series of actions to perform on elements of the file access data structure, where the series of actions include at least one of converting, copying, or linking; and

performing the identified series of actions on the elements of the file access data structure to convert the file data structure from the first endianness to the second endianness". It is unclear how one having ordinary skill in the art would perform a series of action to convert a file data structure, when the series of actions include at least one of converting, copying and linking. Therefore, it would impossible to perform the identified series of action when only one action would be executed among a series of action. The specification page 14, lines 22-29, clearly shows that each of such series of action performs a separate operation. The specification states that the CONVERT operation identifier means that the byte swapping engine needs to convert that particular entry into the proper endianness and the COPY operation causes the byte swapping engine to simply copy the data and not to perform any byte swapping, whereas LINKED operation alerts the byte swapping engine that this entry is a linked. The independent claims 20, 26, and 32 are also rejected under the same analysis as stated in claim 1. An amendment to the claims is strongly advised to solve the 112 rejection set forth in the office action. The body of claim 26 does not perform what set forth in the preamble. Claim 26 clearly states "computer to convert a data structure", whereas the body of the claim states "convert the file access data structure". Applicant is advised to amend the claim in order to establish consistency between the preamble and the body of the claim. The body of the claim 37 recites "using a descriptor lookup table to provide actions to be performed on each element of the first data structure; and stepping through the descriptor table and processing each element of the first data structure according to the element's size and action to convert the first data structure into the

second data structure". It is unclear as to what action the applicant is referring to. The word action is not defined by the claim. It is not clear as to what the applicant is referred to "stepping through the descriptor". The limitation "stepping through the descriptor" is not defined in claim to allow one having ordinary skill in the art to appraise the scope of the claim.

Claim 37 also recites "a method for converting a first data structure ***from a to a*** second data structure by a processor". It unclear as to what the applicant refers to ***"from a to a"*** . Clarification is strongly advised.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 20, 21, 24, 25, 26, 27, 30, 31, 32, 37 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Fischer et al., (hereinafter "Fisher") US patent no. 6,865,614.

As to claim 1, discloses the claimed "identifying, from a descriptor look up table, a series of actions to perform on elements of the file access data structure, where the series of actions include at least one of converting, copying, or linking"(as a structure table called the Fixed ACPI Description Table (FADT) from the ACPI v.2.0 Specification, wherein the FADT comprises a plurality of data structures, each at a specific beginning byte offset, wherein the first byte in FADT has a beginning byte offset of zero and ACPI tables such as FADT are typically stored in

firmware in little-endian format, see fig.4); and "performing the identified series of actions on the elements of the file access data structure to convert the file data structure from the first endianness to the second endianness" (using a byte swapping program segment for reordering the bytes contained within a data structure, when the data structure is larger than one byte in size, and a bit reversal program segment for reversing the bits within the data structure and when the data structure contains at least one bit field, so the program code, which includes an unpacking program segment for converting the data structure from a packed to an unpacked storage format, see fig.6; and converting packed data structures contained within data collections such as ACPI tables to unpacked format, wherein the byte swapping module reorders the bytes of ACPI tables to convert them from little-endian format to big-endian format, see fig.5).

As to claim 20, discloses the claimed "calling a byte-swapping engine"(byte-swapping module reorders the bytes of ACPI tables to convert them from little-endian format to big-endian format, see fig.5); "providing a file access data structure as input to the byte-swapping engine" (byte swapping module provides access to convert a data structure such as 32-bit word to a data structure in the format of 32-bit word, see fig.1A, and fig.5); "providing a descriptor look up table to the byte-swapping engine; identifying, from the descriptor look up table, a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness, where the series of actions include at least one of converting, copying, or linking" (as a structure table called the Fixed ACPI Description Table (FADT) from the ACPI v.2.0 Specification, wherein the FADT comprises a plurality of data structures, each at a specific beginning byte offset, wherein the first

byte in FADT has a beginning byte offset of zero and ACPI tables such as FADT are typically stored in firmware in little-endian format, see fig.4) ; and "performing the identified series of actions on the elements of the file access data structure to convert the file access data structure" (using a byte swapping program segment for reordering the bytes contained within a data structure, when the data structure is larger than one byte in size, and a bit reversal program segment for reversing the bits within the data structure and when the data structure contains at least one bit field, so the program code, which includes an unpacking program segment for converting the data structure from a packed to an unpacked storage format, see fig.6; and converting packed data structures contained within data collections such as ACPI tables to unpacked format, wherein the byte swapping module reorders the bytes of ACPI tables to convert them from little-endian format to big-endian format, see fig.5).

As to claim 21, Direct Access File System (DAFS) protocol is well known in the art to transfer computer data from a packed to an unpacked data structure and also has the ability of a computer to find and go straight to a particular storage location in memory.

As to claim 24, Fischer discloses the claimed "swapping bytes of the data structure as needed, in response to swapping bytes of the file access data structure" (byte swapping is only necessary when a data structure is larger than one byte in size, see fig.5 and col.2, lines 36-38)

As to claim 25, the limitations of claim 25 have been noted in the rejection of claim 20 above. In addition, Fischer discloses the claimed "identifying, from the descriptor look

up table, a nested series of actions to perform on elements of the nested entry in order to swap bytes of the entry from a first endianness to a second endianness, where the nested series of actions includes linking and converting" (using a byte swapping program segment for reordering the bytes contained within a data structure, when the data structure is larger than one byte in size, and a bit reversal program segment for reversing the bits within the data structure and when the data structure contains at least one bit field, so the program code, which includes an unpacking program segment for converting the data structure from a packed to an unpacked storage format, see fig.6; and converting packed data structures contained within data collections such as ACPI tables to unpacked format, wherein the byte swapping module reorders the bytes of ACPI tables to convert them from little-endian format to big-endian format, see fig.5).

As to claims 26, 27, 30 and 31

Claims 26, 27, 30 and 31 are system claims for performing the method of claims 20, 21, 24, and 25 above. They are, therefore, rejected under the same rationale.

As to claim 37, Fisher discloses the claimed "using a descriptor lookup table to provide actions to be performed on each element of the first data structure" (as a structure table called the Fixed ACPI Description Table (FADT) from the ACPI v.2.0 Specification, wherein the FADT comprises a plurality of data structures, each at a specific beginning byte offset, wherein the first byte in FADT has a beginning byte offset of zero and ACPI tables such as FADT are typically stored in firmware in little-endian format, see fig.4); and "stepping through the descriptor table

and processing each element of the first data structure according to the element's size and action to convert the first data structure into the second data structure" (using a byte swapping program segment for reordering the bytes contained within a data structure, when the data structure is larger than one byte in size, and a bit reversal program segment for reversing the bits within the data structure and when the data structure contains at least one bit field, so the program code, which includes an unpacking program segment for converting the data structure from a packed to an unpacked storage format, see fig.6; and converting packed data structures contained within data collections such as ACPI tables to unpacked format, wherein the byte swapping module reorders the bytes of ACPI tables to convert them from little-endian format to big-endian format, see fig.5).

As to claim 38, Fischer discloses the claimed "using a byte as the data structure" (col.3, lines 33-35).

As to claims 39-41:

Claims 39-41depend on claim 2, which has been canceled from the application. Therefore, claims 39-41 have not been examined as to the merits.

As to claims 42-44:

Claims 42-44 depend on claim 15, which has been canceled from the application. Therefore, claims 42-44 have not been examined as to the merits.

As to claims 45-47:

Claims 45-47 depend on claim 34, which has been canceled from the application.

Therefore, claims 45-47 have not been examined as to the merits.

Allowable Subject Matter

10. Claims 22, 23, 28 and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jean M Corrielus
Primary Examiner
Art Unit 2162

August 20, 2007